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CMA 18.
25 each of said internal electrodes is covered with an insulator at one of said first and second side surfaces of the multilayer structure.

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE DRAWINGS

In item 1 on page 2 of the Final Office Action, the Examiner disapproved of the proposed drawing corrections on the basis that copies of the amended drawings showing the changes in red were not submitted. According to our records, this is not correct.

Nevertheless, in order to again overcome the objection to the drawings, submitted herewith are copies of Figs. 2A-2C and 3A-3C marked in red to identify the claimed features of the side surfaces 9 and side surface portions 10 of the multilayer piezoelectric actuator device of the present invention, as required by the Examiner.

In addition, also submitted herewith are corrected sheets of formal drawings which incorporate the amendments and a copy of our Letter to the Official Draftsperson dated February 19, 2002 requesting approval thereof.

THE SPECIFICATION

The specification has been amended to correct one further minor typographical error of which the undersigned has become aware. Submitted herewith is a marked copy of the changed page to show that no new matter has been added, and a full replacement paragraph is set forth hereinabove.

THE CLAIMS

Claims 2 and 3 have been canceled, without prejudice, and claims 1, 6 and 7 have been amended to better comply with the requirements of 35 USC 112, second paragraph.

More specifically, claims 1, 6 and 7 have been amended to clarify that the multilayer piezoelectric actuator device of the present invention comprises first and second external electrodes respectively disposed on first and second side surfaces of said multilayer structure, and that each of said first and second external electrodes are connected to respective alternate ones of said internal electrodes. See, for example, Fig. 2C.

In addition, claims 1, 6 and 7 have been amended to clarify that first and second conductive members are respectively connected to said first and second external electrodes, and to clarify that said first conductive member includes a free end portion that is spaced apart from and faced to said first side surface of the multilayer structure, and that said second conductive member includes a free end portion that is spaced

apart from and faced to said second side surface of the multilayer structure. See, for example, Fig. 2B.

And still further, claims 6 and 7 have been amended to delete therefrom the recitations from claims 3 and 4 objected to by the Examiner, and to make further clarifying amendments to the respective last paragraphs thereof.

In item 4 of the Final Office Action, the Examiner asserts that according to Fig. 2C the external electrodes and the conductive members are not spaced apart. It is respectfully pointed out, however, that claims 1, 6 and 7 recite that the conductive members 3 include free end portions that are spaced apart from the side surfaces of the multilayer structure. Thus, these claims do not recite that the external electrodes and conductive members are spaced apart.

In addition, it is also respectfully pointed out that Fig. 2C is a sectional view taken along line IIC-IIC in Fig. 2B. This is the reason that Fig. 2C does not show the free end portions of the conductive members which are spaced apart from the side surfaces of the multilayer structure.

It is also respectfully pointed out that claims 1, 6 and 7 very clear recite that it is the free end portions of the conductive members which face the side surfaces of the multilayer structure.

Still further, it is respectfully pointed out that Fig. 2B very clearly shows the "free end portions" of the conductive members 3 which are not attached to the external electrodes 2.

And Fig. 2B also very clearly shows that the free end portions of the conductive members 3 face the side surfaces of the multilayer structure 1.

And with respect to the recitation in the last paragraph of claim 6, it is confirmed that the Examiner's understanding of the structure recited therein is correct - i.e., that each of the internal electrodes has one end face which touches one of the side surfaces and another end face which does not touch the side surfaces, as shown in Fig. 2C.

It is respectfully submitted that the amendments to the claims are clarifying in nature only, and that no new matter has been added and that no new issues have been raised which require further consideration on the merits and/or a new search. Accordingly, it is respectfully requested that the amendments to the claims be approved and entered under 37 CFR 1.116.

In addition, it is respectfully submitted that the amended claims are in full compliance with all of the requirements of 35 USC 112, and it is respectfully requested that the rejection thereunder be withdrawn.

And still further, it is respectfully submitted that the amendments to the claims only relate to correcting non-substantive informalities which are not related to patentability, and that the scope of the amended claims has not been narrowed, either literally or under the doctrine of equivalents

THE PRIOR ART REJECTION

Claims 1-6 were again rejected under 35 USC 103 as being obvious in view of the combination of USP 5,866,196 ("Ueno et al") and USP 5,289,074 ("Mori"), and claim 7 was again rejected under 35 USC 103 as being obvious in view of the combination of Ueno et al, Mori and USP 5,932,951 ("Unami"). These rejections, however, are again respectfully traversed.

As recognized by the Examiner, Ueno et al discloses a multilayer electronic component which includes a plurality of internal electrodes 2 and external electrodes 3 which are connected to the internal electrodes. As also recognized by the Examiner, however, Ueno et al does not disclose any structure corresponding to the conductive members of the claimed present invention.

For this reason, the Examiner has cited Mori as disclosing a piezoelectric device having external resilient plates 50a and 50b which the Examiner asserts correspond to the conductive members of the claimed present invention.

It is respectfully pointed out, however, that the resilient plates 50a and 50b of Mori are merely provided to exert a predetermined compression pressure to the multilayer piezoelectric structure 38, and that the piezoelectric device of Mori does not even have external electrodes.

Accordingly, it is respectfully submitted that the resilient plates 50a and 50b do not at all correspond to the conductive

members of the claimed present invention which are respectively connected to the external electrodes.

According to the present invention as recited in the amended claims, each of the conductive members includes a free end portion that is spaced apart from and faced to the respective side surfaces of the multilayer structure. As a result, even if a crack occurs in the multilayer structure and the external electrodes, the free end portion of the conductive members will still electrically connect upper and lower segments of the external electrode so as to keep electrical connection of all of the internal electrodes. The multilayer piezoelectric actuator device of the claimed present invention is therefore prevented from degradation in function. (See the disclosure in the specification at page 6, line 19 to page 7, line 6 - wherein the free end portion of the conductive members is referred to as the second transverse end, and see also the disclosure in Fig. 2A, for example.)

In item 8 of the Office Action, the Examiner points out that the resilient plates 50a and 50b of Mori are spaced from the multilayer piezoelectric structure 38. While this may be true, as pointed out hereinabove the piezoelectric device of Mori does not even include external electrodes. And the resilient plates 50a and 50b of Mori have an entirely different structure and function than the conductive members of the claimed present invention. Namely, the resilient plates 50a and 50b of Mori are not structurally connected to external electrodes in the manner

of the conductive members of the claimed present invention, and the resilient plates 50a and 50b of Mori cannot achieve the function of the conductive members of the claimed present invention which electrically connect upper and lower segments of the external electrodes so as to keep electrical connection of all of the internal electrodes.

In addition, it is respectfully pointed out that the even if the teachings of Ueno et al and Mori were combinable in the manner suggested by the Examiner, the structure of the claimed present invention would still not be achieved or rendered obvious. This is because the combination of Ueno et al and Mori would result in the resilient plates 50a and 50b of Mori either being entirely connected to the external electrodes of Ueno et al or being entirely disconnected from the external electrodes of Ueno et al.

In summary, it is respectfully submitted that neither of Ueno et al nor Mori discloses, teaches or even remotely suggests a multilayer piezoelectric structure having conductive members which are connected to external electrodes and which include free end portions spaced apart from and faced to respective side surfaces of a multilayer piezoelectric structure, as according to the claimed present invention.

Accordingly, it is respectfully submitted that the claimed present invention clearly patentably distinguishes over Ueno et al and Mori under 35 USC 103, and it is respectfully requested that the rejection thereunder be withdrawn.

In view of the foregoing, entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned in order to facilitate the prosecution of this application by resolving any outstanding matters.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'D. Holtz', with a long horizontal stroke extending to the right.

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